SemIoTic addresses three main challenges:

1- **Interoperability**: Manufacturers of IoT devices use diverse mechanisms across multiple layers to enable communication with their platforms. An end-to-end solution that includes smartspaces, applications and devices is required.

2- **Reusability**: Developers should create smart applications that can be deployed and reused across multiple contexts — e.g., smart homes, offices and cities, regardless of the underlying device infrastructure.

3- **User Privacy**: There is a significant legislative support for user privacy. Users should understand what data is being collected/inferred about them and thus, expressing their preferences about it.

**Motivation**

**Domain Model Handling**

The SEMIC meta ontology supports the definition of the higher-level concepts of the IoT space — i.e., types of spaces, users and sensors/actuators, as well as specific instances of those types.

**Device Action Handling**

**Future Work**

- Handling user actions using sensor data stored in database systems.
- Optimizing the translation algorithms.
- Incorporating mobile IoT sensors and actuators.

**References**


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**SemIoTic: Bridging the Semantic Gap in IoT Spaces**

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